

WHAT IS CLAIMED IS

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1. An image recognition system comprising:  
an examining part which examines as to how  
much input image parts resemble a predetermined figure  
comprising a plurality of elements, and gives a first  
10 score on each image part as to how much it resembles to  
the element of the predetermined figure, and gives a  
second score on the image parts as to how much a  
positional relationship therebetween resembles that of  
the elements of the predetermined figure; and  
15 a determining part which determines as to  
whether or not the input image parts coincide with the  
predetermined figure by using the first respective  
scores and the second score synthetically.

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2. The system as claimed in claim 1, wherein:  
said examining part comprises a measurement  
25 part which measures the number of pixels each having a

gray-scale level higher than a predetermined threshold on a foreground part, and measures the same on a background part of each image part, and a first scoring part which gives a score as to relationship between the 5 thus-measured numbers of pixels.

10           3. The system as claimed in claim 2, wherein:  
said measurement part does not measure the

number of pixels on the background part near the  
boundary with the foreground part when the measured  
number of pixels on the foreground part is larger than a  
15 predetermined value.

20           4. The system as claimed in claim 1, wherein  
said examining part examines symmetry on each image part.

25           5. The system as claimed in claim 1, wherein

said examining part examines area balance on each image part.

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6. The system as claimed in claim 1, wherein said examining part examines angular periodicity on each image part.

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7. The system as claimed in claim 1, wherein  
15 said examining part gives a plurality of primary scores on each image part with respect to various characteristic factors, and then, gives a final score thereon by combining the plurality of primary scores according to a predetermined manner.

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8. The system as claimed in claim 1, further  
25 comprising a selecting part which selects one of a

plurality of image parts to be sent to the determining part when the plurality of image parts are present less than a predetermined distance from each other.

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9. The system as claimed in claim 1, wherein:  
said determining part calculates a difference  
10 between an ideal arrangement of the respective elements  
of the predetermined figure and an actually measured  
arrangement of the respective input image parts.

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10. The system as claimed in claim 1,  
wherein:  
said determining part sums the total score on  
20 the respective input image parts and a score as to how  
much the arrangement of the respective image parts  
resembles that of the respective elements of the  
predetermined figure.

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11. An image recognition method comprising  
the steps of:

- a) examining as to how much input image parts  
resemble a predetermined figure comprising a plurality  
5 of elements, and giving a first score on each image part  
as to how much it resembles to the element of the  
predetermined figure, respectively, and giving a second  
score on the image parts as to much a positional  
relationship therebetween resembles that of the  
10 respective elements of the predetermined figure; and
- b) determining as to whether or not the input  
image parts coincide the predetermined figure by using  
the first and second scores synthetically.

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12. The method as claimed in claim 11,  
wherein:

- 20 said step a) comprises the steps of a1)  
measuring the number of pixels each having a gray-scale  
level higher than a predetermined threshold on a  
foreground part, and measuring the same on a background  
part of each image part, and a2) giving a score as to  
25 relationship between the thus-measured numbers of pixels.

13. The method as claimed in claim 12,  
wherein:

said step a1) does not measure the number of  
pixels on the background part near the boundary with the  
5 foreground part when the measured number of pixels on  
the foreground part is larger than a predetermined value.

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14. The method as claimed in claim 11,  
wherein said step a) examines symmetry on each image  
part.

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15. The method as claimed in claim 11,  
wherein said step a) examines area balance on each image  
20 part.

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16. The method as claimed in claim 11,

wherein said step a) examining angular periodicity on each image part.

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17. The method as claimed in claim 11,  
wherein said step a) gives a plurality of primary scores  
on each image part with respect to various factors, and  
10 then, gives a final score thereon by combining the  
plurality of primary scores according to a predetermined  
manner.

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18. The method as claimed in claim 11,  
further comprising the step c) of selecting one of a  
plurality of image parts to be processed by said step b),  
20 when the plurality of image parts are present less than  
a predetermined distance from each other.

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19. The method as claimed in claim 11,  
wherein:

said step b) calculates a difference between  
an ideal arrangement of the respective elements of the  
5 predetermined figure and an actually measured  
arrangement of the respective input image parts.

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20. The method as claimed in claim 11,  
wherein:

said step b) sums the total score on the  
respective input image parts and a score as to how much  
15 the arrangement of the respective image parts resembles  
that of the respective elements of the predetermined  
figure.